

Amendments to the Specification

Please replace the paragraph at page 1, lines 8 through 15 with the following amended paragraph:

With the advent of streaming multimedia technology from RealNetworks and, more recently, Microsoft, live broadcast multimedia has begun to proliferate on the Internet. There are already a large number of live events that are broadcast on the Internet--see Broadcast.com for a number of examples (<http://www.broadcast.com/live/daysched.asp>). Other calendars of live webcasts can be found at Yahoo! Net Events (<http://events.yahoo.com/>) and OnNow.com (<http://www.onnow.com>). These events typically fall into a wide range of subject categories: sports, entertainment, news, health, computers, business and others.

Please replace the paragraph at page 1, line 16 through page 2, line 4 with the following amended paragraph:

In some cases, archived versions of live webcast (i.e., Internet provided broadcast multimedia) content do not exist. Broadcast.com does not archive the Rush Limbaugh show, its most popular radio talk show. While many live events are archived, finding where they are is not always easy--for example, there is no link from Broadcast.com's live schedule to archives. Another example is regular season baseball games, which can be found at [MajorLeagueBaseball.com](http://www.majorleaguebaseball.com) <http://www.majorleaguebaseball.com/>. They are not archived at the Major League Baseball site, though they are archived at [Espn.Go.com](http://espn.go.com) <http://espn.go.com>.

Please replace the paragraph at page 2, lines 5 through line 11 with the following amended paragraph:

Even when archived versions may exist, there are other reasons why users will want time shifted (i.e., at a time other than the live broadcast) video and audio broadcasts. For example, there is invariably a lag between the live broadcast of an event and the appearance of an archived version, at least for the duration of the event. So, time shifting could be of value for similar

reasons to those given for TV versions of such products as ReplayTV (<http://www.replaytv.com>) and TiVo (<http://www.tivo.com>).

Please replace the paragraph at page 2, lines 17 through line 26 with the following amended paragraph:

Some live events are extremely popular, such as the Victoria's Secret live webcast of its fashion show on February 3, 1999 webcast by Broadcast.com. According to Broadcast.com, 1.5 million viewers watched the event (see <http://www.cnnfn.com/digitaljam/9902-04/victoria/>) which was marred by technical difficulties (see "Net video not ready for prime time" from News.com <http://www.news.com/News/Item/0,4,32033,00.html>). The number of live events will increase as Internet Protocol multicast technologies are more widely deployed--these were not in place for the Victoria's Secret webcast, and their absence was blamed for many of the problems encountered. With IP multicast, it will be considerably less expensive to transmit video and audio during live broadcasts than to transmit them on demand, especially for high quality video.

Please replace the paragraph at page 3, lines 4 through line 11 with the following amended paragraph:

Prior approaches include the time-shifting systems of TiVo and ReplayTV, both of which capture analog TV signals as MPEG2 digital streams that are saved to disk. These systems are both self-contained information appliances, physical devices that receive an analog television-format video feed and produce the same format of feed, time shifted, for display on a television. The DISHPlayer Satellite Receiver for the DISH Network satellite service (see WebTV.com <http://www.webtv.com/products/satellite/>) performs time shifting on video received from the service, presumably by saving MPEG2 streams from a digital satellite service to a buffer on disk.

Please replace the paragraph at page 11, lines 22 through line 25 with the following amended paragraph:

Also a local archive may be indexed for convenient later retrieval, by stripping captions from documents that can support them (see the SMIL standard at W3C.org, ~~http://www.w3c.org~~, adhered to by the RealNetworks G2 format), using speech recognition or any other method of content based retrieval.